

Freescale

Semiconductor

Part Number: MCIMX537CVV8C

i.MX537 Multimedia Applications Processor

The i.MX53 family of processors represents Freescale's next generation of advanced multimedia and power-efficient implementation of the ARM Cortex™-A8 core. With core processing speeds up to 800 MHz, the i.MX537 is optimized for both performance and power to meet the demands of high-end, advanced applications. Integrated display controller, 1080p HD video decode and 720p video encode, enhanced graphics and connectivity features make the i.MX537 ideal for a wide range of applications such as Human Machine Interfaces (HMI) and patient monitors which require rich user interfaces with high color displays and user interaction.

Features

CPU Complex

- 800 MHz ARM Cortex-A8 CPU
- 32 KB instruction and data caches
- Unified 256 KB L2 cache
- NEON SIMD media accelerator
- Vector floating point coprocessor

Multimedia

- Independent OpenGL® ES 2.0 and OpenVG™ 1.1 hardware accelerators
- Multi-format HD 1080p video decoder and HD 720p video encoder hardware engine
- Dual display capable with multiple display options including TFT LCD, LVDS, analog TV-formats (composite, component, RGB) and standard VGA
- Hardware accelerated image post-processing, display quality enhancement, and video and graphics combining
- Two simultaneous camera inputs with hardware pre-processing

External Memory Interface

- Up to 2 GB LP-DDR2, LV-DDR2, DDR2-800, and DDR3-800 SDRAM, 16/32-bit
- Managed NAND Flash Support with eMMC 4.4/SDIO
- Raw NAND with up to 16-bit ECC

Advanced Power Management

- Multiple independent power domains
- Dynamic voltage and frequency scaling

Connectivity

- High-Speed USB 2.0 OTG with PHY
- High-Speed USB 2.0 Host with PHY
- Two additional High-Speed USB controllers (ULPI)
- Integrated LVDS display interface supporting up to 2 channels each with 4 data pairs and 1 clock pair
- Wide array of serial interfaces, including SDIO, SPI, I2C and UART
- I2S and S/PDIF audio interfaces
- 10/100 Ethernet controller with IEEE1588 time stamping
- SATA controller and PHY up to 1.5Gbps
- Dual CAN interfaces

Security

- Advanced security supporting High Assurance Boot, cryptographic cipher engines, random number generator, and tamper detection

Package

- 19mm x 19mm 529-ball TE-BGA
- 0.8mm pitch